



DNA-PK

SEQUENCE LISTING

<110> Brookhaven Science Associates
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Connelly, Margery A

<120> DNA-PK Assay

<130> BSA 01-02

<140> US 09/695,437

<141> 2000-10-24

<150> US 08/398,139

<151> 1995-03-03

<150> 08/132,284

<151> 1993-10-06

<160> 64

<170> PatentIn version 3.1

<210> 1

<211> 28

<212> PRT

<213> Homo sapiens

<220>

<221> MISC_FEATURE

<223> Human p53 residues 1-28

31
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Met Glu Glu Pro Gln Ser Asp Pro Ser Val Glu Pro Pro Leu Ser Gln
1 5 10 15

Glu Thr Phe Ser Asp Leu Trp Lys Leu Leu Pro Glu
20 25

<210> 2

<211> 28

<212> PRT

<213> Musca domestica

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<223> Mouse p53 residues 4-31

<400> 2

Met Glu Glu Ser Gln Ser Asp Ile Ser Leu Glu Leu Pro Leu Ser Gln
1 5 10 15

Glu Thr Phe Ser Gly Leu Trp Lys Leu Leu Pro Pro
 20 25

<210> 3
 <211> 16
 <212> PRT
 <213> Musca domestica

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 <223> Mouse p53 residues 4-13

<400> 3

Met Glu Glu Ser Gln Ser Asp Ile Ser Leu Glu Leu Pro Tyr Lys Lys
 1 5 10 15

<210> 4
 <211> 25
 <212> PRT
 <213> Homo sapiens

<220>
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 <223> Human p53 residues 1-24

<400> 4

Met Glu Glu Pro Gln Ser Asp Pro Ser Val Glu Pro Pro Leu Ser Gln
 1 5 10 15

Glu Thr Phe Ser Asp Leu Trp Lys Lys
 20 25

<210> 5
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 <223> Human p53 residues 1-24; S15A substitution

<400> 5

Met Glu Glu Pro Gln Ser Asp Pro Ser Val Glu Pro Pro Leu Ala Gln
 1 5 10 15

Glu Thr Phe Ser Asp Leu Trp Lys Lys
 20 25

<210> 6
 <211> 18
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 <223> Human p53 residues 29-44

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Asn Asn Val Leu Ser Pro Leu Pro Ser Gln Ala Met Asp Asp Leu Met
 1 5 10 15

Lys Lys

<210> 7
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<220>
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 <223> Human p53 residues 160-175

<400> 7

Met Ala Ile Tyr Lys Gln Ser Gln His Met Thr Glu Val Val Arg Arg
 1 5 10 15

<210> 8
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<220>
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 <223> Human p53 residues 11-24

<400> 8

Glu Pro Pro Leu Ser Gln Glu Thr Phe Ser Asp Leu Trp Lys Lys
 1 5 10 15

<210> 9
 <211> 11
 <212> PRT
 <213> Homo sapiens

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 <223> Human p53 residues 11-19

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Glu Pro Pro Leu Ser Gln Glu Thr Phe Lys Lys
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<210> 10
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 <213> Homo sapiens

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 <223> Human p53 residues 11-21

<400> 10

Glu Pro Pro Leu Ser Gln Glu Thr Phe Ser Asp Lys Lys
 1 5 10

<210> 11
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 <223> Human p53 residues 11-24:T18A and S20A substitutions

<400> 11

Glu Pro Pro Leu Ser Gln Glu Ala Phe Ala Asp Leu Trp Lys Lys
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<210> 12
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 <213> Homo sapiens

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 <223> Human p53 residues 11-24:T18A and S20A and W23L substitutions

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Glu Pro Pro Leu Ser Gln Glu Ala Phe Ala Asp Leu Leu Lys Lys
 1 5 10 15

<210> 13

<211> 15

<212> PRT

<213> Homo sapiens

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<223> Human p53 residues 11-24:E17K, T18A and S20A substitutions

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Glu Pro Pro Leu Ser Gln Lys Ala Phe Ala Asp Leu Trp Lys Lys
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<210> 14

<211> 15

<212> PRT

<213> Homo sapiens

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<223> Human p53 residues 11-24:L14Q, Q16L, T18A and S20A substitutions

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<212> PRT

<213> Homo sapiens

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<223> Human p53 residues 11-24:L14Q, T18A and S20A substitutions

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Glu Pro Pro Gln Ser Gln Glu Ala Phe Ala Asp Leu Trp Lys Lys
 1 5 10 15

<210> 16

<211> 15

<212> PRT
 <213> Homo sapiens

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 <223> Human p53 residues 11-24:S15T, T18A and S20A substitutions

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 <223> Human p53 residues 12-24:P13E, L14E, T18A and S20A substitutions

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Pro	Glu	Glu	Ser	Gln	Glu	Ala	Phe	Ala	Asp	Leu	Trp	Lys	Lys
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<210> 20

<211> 15

<212> PRT

<213> Homo sapiens

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<223> Human p53 residues 11-24 with Q16E, E17Q, T18A and S20A substitutions

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Glu Pro Pro Leu Ser Glu Gln Ala Phe Ala Asp Leu Trp Lys Lys
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<210> 21

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<212> PRT

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<223> DNA-PK assay negative control peptide

<400> 21

Glu Pro Pro Leu Ala Gln Glu Ala Phe Ala Asp Leu Trp Lys Lys
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<210> 22

<211> 15

<212> PRT

<213> Artificial Sequence

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<223> DNA-PK assay negative control peptide

<400> 22

Glu Pro Pro Leu Ala Gln Glu Thr Phe Ser Asp Leu Trp Lys Lys
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<210> 23

<211> 13

<212> PRT

<213> Artificial Sequence

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<223> DNA-PK assay negative control peptide

<400> 23

Pro Glu Ser Glu Gln Ala Phe Ala Asp Leu Trp Lys Lys
1 5 10

<210> 24

<211> 14

<212> PRT

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<223> DNA-PK assay negative control peptide

<400> 24

Pro Glu Glu Ala Gln Glu Ala Phe Ala Asp Leu Trp Lys Lys
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<210> 25

<211> 14

<212> PRT

<213> Artificial Sequence

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<223> DNA-PK assay negative control peptide

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Pro Glu Glu Ser Glu Gln Ala Phe Ala Asp Leu Trp Lys Lys
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<210> 26

<211> 14

<212> PRT

<213> Artificial Sequence

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<223> Example of inappropriate DNA-PK negative control peptide

<400> 26

Pro Glu Glu Ala Gln Glu Thr Phe Ser Asp Leu Trp Lys Lys
1 5 10

<210> 27

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> DNA effector for in vitro DNA-PK assays

<400> 27
gcgcgcgcgc gcgcgcgcgc gcgc

24

<210> 28
<211> 19
<212> PRT
<213> Homo sapiens

<220>
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<223> Human p53 residues 92-108

<400> 28
Pro Leu Ser Ser Ser Val Pro Ser Gln Lys Thr Tyr Gln Gly Ser Tyr
1 5 10 15

Gly Lys Lys

<210> 29
<211> 21
<212> PRT
<213> Homo sapiens

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<223> Human p53 residues 306-327

<400> 29
Ala Leu Pro Asn Asn Thr Ser Ser Ser Pro Gln Pro Lys Lys Lys Pro
1 5 10 15

Leu Asp Gly Glu Tyr
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<210> 30
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<213> Homo sapiens

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<223> Human p53 residues 371-385

<400> 30

DNA-PK

Ser Lys Lys Gly Gln Ser Thr Ser Arg His Lys Lys Leu Met Phe
1 5 10 15

<210> 31
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<212> PRT
<213> Homo sapiens

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<223> Human p53 residues 380-393

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His Lys Lys Leu Met Phe Lys Thr Glu Gly Pro Asp Ser Asp
1 5 10

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<213> Homo sapiens

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<223> Human p53 residues 11-24:Q16E, T18A and S20A substitutions

<400> 32

Glu Pro Pro Leu Ser Glu Glu Ala Phe Ala Asp Leu Trp Lys Lys
1 5 10 15

<210> 33
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<212> PRT
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<223> Human p53 residues 11-24:Q16N, T18A and S20A substitutions

<400> 33

Glu Pro Pro Leu Ser Asn Glu Ala Phe Ala Asp Leu Trp Lys Lys
1 5 10 15

<210> 34
<211> 15
<212> PRT
<213> Homo sapiens

<220>
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 <223> Human p53 residues 11-24 with Q16Y, T18A, S20A and W23L
 substitutions

<400> 34

Glu	Pro	Pro	Leu	Ser	Tyr	Glu	Ala	Phe	Ala	Asp	Leu	Leu	Lys	Lys
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<210> 35
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 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Casein kinase I substrate

<400> 35

Asp	Asp	Asp	Glu	Glu	Ser	Ile	Thr	Arg	Arg
1				5				10	

<210> 36
 <211> 8
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic S6 kinase substrate

<400> 36

Arg	Arg	Leu	Ser	Ser	Leu	Arg	Ala
1				5			

<210> 37
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 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic casein kinase II substrate

<400> 37

Arg	Arg	Arg	Glu	Glu	Glu	Thr	Glu	Glu	Glu
1				5				10	

<210> 38
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<220>

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<223> peptide fragement

<400> 38

Ser Asp Leu Trp

1

<210> 39

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic casein kinase II substrate

<400> 39

Arg Arg Arg Asp Asp Asp Ser Asp Asp Asp

1

5

10

<210> 40

<211> 17

<212> PRT

<213> Homo sapiens

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<221> MISC_FEATURE

<222> (1)..(4)

<223> human hsp90 residues 1-4

<220>

<221> MISC_FEATURE

<222> (5)..(17)

<223> human p53 residues 15-27 with S20E substitution

<400> 40

Met Pro Glu Glu Ser Gln Glu Thr Phe Glu Asp Leu Trp Lys Leu Leu

1

5

10

15

Pro

<210> 41

<211> 4

<212> PRT

DNA-PK

<213> Homo sapiens

<220>

<221> MISC_FEATURE

<223> human hsp90 residues 1-4

<400> 41

Met Pro Glu Glu

1

<210> 42

<211> 13

<212> PRT

<213> Homo sapiens

<220>

<221> MISC_FEATURE

<223> human p53 residues 15 to 27 with S20E substitution

<400> 42

Ser Gln Glu Thr Phe Ser Asp Leu Trp Lys Leu Leu Pro

1

5

10

<210> 43

<211> 11

<212> PRT

<213> herpes simplex virus 1

<220>

<221> MISC_FEATURE

<223> HSV 1 glycoprotein D precursor residues 289-299

<400> 43

Glu Pro Glu Leu Ala Pro Glu Asp Pro Glu Asp

1

5

10

<210> 44

<211> 4

<212> PRT

<213> Artificial Sequence

<220>

<223> Consensus cleavage site of human adenovirus endoproteinase

<400> 44

Met Ser Gly Gly

1

DNA-PK

<210> 45
 <211> 20
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic phosphorylation site segment

<400> 45

Met Pro Glu Glu Ser Gln Glu Thr Phe Glu Asp Leu Trp Lys Leu Leu
 1 5 10 15

Pro Gly His His
 20

<210> 46
 <211> 53
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Sense strand oligonucleotide encoding DNA-PKphosphorylation segment
 nt SEQ ID NO: 45

<400> 46
 tatgcctgag gaaagtcagg agacattcga agatctatgg aaactacttc ctg 53

<210> 47
 <211> 56
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Antisense oligonucleotide for phosphorylation site segment

<400> 47
 gtgaccagga agtagtttcc atagatcttc gaatgtgtcc tgactttcct caggca 56

<210> 48
 <211> 53
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Sense primer sequence

<400> 48
 gctctagaag tcgactttta gaaggagata ccaagatgcc tgaggaaagt cag 53

DNA-PK

<210> 49
 <211> 61
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Antisense primer with HSV epitope sequence

<400> 49
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 c 61

<210> 50
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 <212> DNA
 <213> Artificial Sequence

<220>
 <223> sense primer for substrate PCR

<400> 50
 catcaccatg gtatgagcgg cggcatggag gagcccagtg accttg 46

<210> 51
 <211> 61
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> antisense primer for substrate PCR

<400> 51
 cgggataccta atcctcgggg tcttcgggg cgagttctgg ctgtggggtg attctttttt 60
 c 61

<210> 52
 <211> 8
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic substrate fragment

<400> 52
 Glu Glu Ala Gln Glu Thr Phe Glu
 1 5

<210> 53
 <211> 25
 <212> DNA

DNA-PK

<213> Artificial Sequence

<220>

<223> Sense strand for SEQ ID NO: 52

<400> 53
tgaggaagcc caggagacat tcgaa 25

<210> 54
<211> 26
<212> DNA
<213> Artificial Sequence

<220>

<223> Antisense strand for SEQ ID NO: 52

<400> 54
gatcttcgaa tgtctcctgg gcttcc 26

<210> 55
<211> 25
<212> DNA
<213> Artificial Sequence

<220>

<223> Sense strand for negative control vector

<400> 55
tgaggagtct gagcagacat tcgaa 25

<210> 56
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<212> DNA
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<220>

<223> complement of SEQ ID NO: 55

<400> 56
gatcttcgaa tgtctgctca gactcc 26

<210> 57
<211> 36
<212> DNA
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<220>

<223> sense strand for multiple cloning site

<400> 57
ctagctctag aggcgcgccc gggtagccgc gccgcc 36

DNA-PK

<210> 58
 <211> 36
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 <213> Artificial Sequence

<220>
 <223> complement of SEQ ID NO: 57 multiple cloning site

<400> 58
 tcgaggcggc cgcggtaccc gggcgcgcct ctagag 36

<210> 59
 <211> 177
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> sequence of Human Oct-1 POU domain with His6 tag, expressed from plasmid pT7HPOU1

<400> 59

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 1 5 10 15

Gly Met Glu Glu Pro Ser Asp Leu Glu Glu Leu Glu Gln Phe Ala Lys
 20 25 30

Thr Phe Lys Gln Arg Arg Ile Lys Leu Gly Phe Thr Gln Gly Asp Val
 35 40 45

Gly Leu Ala Met Gly Lys Leu Tyr Gly Asn Asp Phe Ser Gln Thr Thr
 50 55 60

Ile Ser Arg Phe Glu Ala Leu Asn Leu Ser Phe Lys Asn Met Cys Lys
 65 70 75 80

Leu Lys Phe Leu Leu Glu Lys Trp Leu Asn Asp Ala Glu Asn Leu Ser
 85 90 95

Ser Asp Ser Ser Leu Ser Ser Pro Ser Ala Leu Asn Ser Pro Gly Ile
 100 105 110

Glu Gly Leu Ser Arg Arg Arg Lys Lys Arg Thr Ser Ile Glu Thr Asn
 115 120 125

Ile Arg Val Leu Glu Lys Ser Phe Leu Glu Asn Gln Lys Pro Thr Ser
 130 135 140

DNA-PK

Glu Glu Ile Thr Met Ile Ala Asp Gln Leu Asn Met Glu Lys Glu Val
145 150 155 160

Ile Arg Val Trp Phe Cys Asn Arg Arg Gln Lys Glu Lys Arg Ile Asn
165 170 175

Pro

<210> 60
<211> 5005
<212> DNA
<213> Artificial Sequence

<220>
<223> nucleotide sequence of pT7HPOU1

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DNA-PK

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tcgtgaagcg	attcacagat	gtctgcctgt	tcatccgcgt	ccagctcggt	gagtttctcc	2760

DNA-PK

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DNA-PK

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<212> PRT
<213> Artificial Sequence

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<400> 61

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35          40          45

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Arg Arg Ile Lys Leu Gly Phe Thr Gln Gly Asp Val Gly Leu Ala Met
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Gly Lys Leu Tyr Gly Asn Asp Phe Ser Gln Thr Thr Ile Ser Arg Phe
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Glu Ala Leu Asn Leu Ser Phe Lys Asn Met Cys Lys Leu Lys Pro Leu
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Leu Glu Lys Trp Leu Asn Asp Ala Glu Asn Leu Ser Ser Asp Ser Ser
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DNA-PK

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145 150 155 160

Thr Met Ile Ala Asp Gln Leu Asn Met Glu Lys Glu Val Ile Arg Val
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DNA-PK

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DNA-PK

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DNA-PK

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5873

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Lys Lys

<210> 64
<211> 18
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<400> 64

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1 5 10 15

Lys Lys

B'
CMT